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ABSTRACT

The study compared maternal and trained observer evaluations of infant temperamental characteristics, to determine how closely the ratings correspond, and to analyze the impact of maternal drug abuse habits on maternal ratings of infant temperament. In relating observer to maternal ratings of infant temperament, seven dimensions were compared: activity level, adaptability, approach, intensity, mood, distractibility, and persistence. Only two of these, activity level and persistence, showed significant correlations between observer and maternal ratings. A principal components analysis of the observer ratings revealed a constellation of characteristics--mood, approach, and adaptability-- which have been defined in the literature as characteristic of the "easy" baby. Maternal ratings of infants on these three dimensions appear to be negatively correlated with maternal drug habits; as maternal drug abuse scores increased, so did maternal reports of difficult infant characteristics. Includes eight references. (JDD)

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Temperamental Characteristics of Infants Born to Drug Abusers: Do Maternal and Observer Ratings Agree?

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The importance of mother-infant interaction to the infant's emotional and also cognitive development has been demonstrated repeatedly (cf. Clark-Stewart, 1973; Sroufe, 1978). At the same time, however, researchers have shown that infant characteristics have considerable impact on maternal behavior in the interaction process (Lewis, 1981). In our work with drug abusers and their infants, we have been struck by how often these mothers describe their babies as "bad," and at the high level of dissatisfaction they express about the demands placed on them by their infants. Of course, it is quite possible that these drug-exposed babies are in fact more difficult than most. This is supported by findings of greater irritability and less consolability on the Brazelton Scales in methadone-exposed infants (Ramer and Lodge, 1975). However, it is also possible that drug-abusing mothers, because of their own emotional deficits (Lawson and Wilson, 1979), have particular difficulty fulfilling the routine and repetitious demands of infant care.

In the present study, we will examine these two alternatives by comparing maternal and trained observer evaluations of infant temperamental characteristics. In addition, we will explore the relevance of the Thomas and Chess (1977) constellations of "easy" and "difficult" temperamental characteristics to infants born to drug abusers. Within the context of our population of drug abusing mothers and their infants, we will address two main questions:

1) How closely do maternal and observer ratings of infant temperament correspond?

2) How are maternal drug abuse habits related to maternal ratings of infant temperament?

Subjects

During the second trimester of their pregnancies, 111 women registered at the Perinatal High Risk Clinic were enrolled in the study. These women, who came from similar racial and low SES backgrounds, represented a continuum of drug abuse (per Chasnoff, 1982) ranging from no drugs at all to moderate use of alcohol and/or marijuana to heavy multidrug abuse including cocaine and/or methadone. Heavy alcohol users were excluded from the study. The mothers were followed through their pregnancies. Drug histories and urine screens for drugs of abuse were administered during each trimester. The Depression Adjective Checklist, Self-Esteem Inventory (Coopersmith), and Locus of Control Scale (Rotter) were also given.

At delivery, the infants of these women were enrolled in the follow-up study if the neonate was of at least 35 weeks gestational age, had Apgar scores >3 and >5 at 1 and 5 minutes, respectively, and had no gross anomalies. Because the attendance of some of the study subjects has been erratic, the number of subjects with data available at each timepoint varies. This presentation includes the 75 infants for whom mother-infant videotapes and observer codings of temperament characteristics

are available; 42 of these infants also have maternal temperament evaluations from the Carey Questionnaire.

Procedure

Follow-up: The mothers and infants were seen in the follow-up clinic at child's age 2, 4, 6, 9, 12, 15 and 18 months. Each visit included a physical examination and a 30-minute session of mother-infant interaction which was videotaped. Neurological evaluations were done at the 2, 3, 6, 12, and 18 month visits, and the Bayley Scales of Infant Development were given at 6, 12, and 18 months. Mothers received the Depression Adjective Checklist, Self-Esteem Inventory, and Locus of Control Scale at the 6-month visit, and the Carey Infant Temperament Questionnaire at the 9-month visit.

Drug abuse score: Using maternal drug histories obtained during pregnancy, a drug abuse score based on type of drug x frequency of use was computed. This score correlated with the social worker's clinical assessment of the severity of drug abuse problems ($p < .0001$), and also with a number of perinatal variables, including birthweight ($p < .01$), which have demonstrated vulnerability to adverse prenatal factors.

Observer ratings of temperament: Each videotape of mother-infant interaction at 2, 4, and 6 months was coded for the infant temperament characteristics described by Thomas and Chess. Ratings were done at 2-minute intervals, so that for each 30-minute tape, 15 ratings per dimension were obtained. For each child, a mean score for each dimension across observation

sessions was obtained. Ratings were done by post-Masters level graduate students in psychology. All raters were trained by the project psychologist, and periodic checks of inter-rater agreement were made to maintain at least .80 agreement.

Maternal ratings of temperament: The project pediatric nurse practitioner administered the Carey Infant Temperament Questionnaire to the mother at the 9-month visit. Responses were scored according to the procedures outlined by Carey (1970).

Findings

In relating observer to maternal ratings of infant temperament, there were seven dimensions to compare: activity level, adaptability, approach, intensity, mood, distractibility, and persistence. Only two of these, activity level and persistence, showed significant correlations between observer and maternal ratings (r = .32, $p < .02$; r = .28, $p < .04$, respectively). However, a principal components analysis of the observer ratings of infant temperament revealed that the first factor was a constellation of characteristics - mood, approach, adaptability - similar to the Factor A which Thomas and Chess used to define the easy baby. Further, the maternal ratings of infants on these three dimensions appear to be related to maternal drug habits. For adaptability, the correlation with drug abuse score was -.25, $p < .06$; for approach, -.27, $p < .05$; and for mood, -.23, $p < .07$. These negative correlations indicate that as maternal drug abuse scores increased, so did maternal reports of difficult infant characteristics.

Conclusions

The data show little agreement between maternal and observer ratings of infant temperament with the study population of drug abusers. However, the observer ratings do support the "easy baby" constellation of characteristics reported with other populations. The lack of correlation between observer and maternal ratings, as well as the correlations found between maternal drug abuse scores and maternal ratings of babies as having "difficult baby" characteristics suggest that maternal ratings are being influenced by more than the baby's behavior itself. Specifically, it appears that women who are more heavy drug users find their babies more difficult. Thus, these women may require substantial support services in order to provide adequate infant care.

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